Getting at the Solution of One of Country's Biggest Problems.

By R. E. FULTON. e-Prestlent of the International Mo

The problem of good roads is only one part of a bigger problem—transpor-tation. It is necessary to state this obvious fact for the simple reason that the obvious is usually the last thing we The other half of the problem is

c. The other half of the problem is rehicles plus their motive power.
Good transportation has resolved itself into two things: good roads and motor trucks. A favorable sign of the limes is the growing recognition on the part of good roads advocates that good roads exist for the use of better transportation media—the motor truck and rtation media-the motor truck and

the automobile.

The motor truck is not only replac-big horse transportation but in many cases it is supplanting railroads. The motor truck is the solution of the modern transportation problem.

In addition to the unlimited use of motors trucks for delivery purposes, they are substituting for railroads where the railroads themselves are using them.

railroads themselves are using them to beplace spurs, which are a source of expense and difficulty. Also, in inter-

expense and difficulty. Also, in inter-city shipments large truck companies operate transportation service for mer-chandise, supplies, &c.

An idea of the extent of this form of transportation which is calling for better roads and the best motor trucks is given by the example of Callan Brothers of New York, who operate a potor truck transportation system within a radius of 400 miles of New York city. They have a fleet of over fork city. They have a fleet of ove orty 712 ton Mack trucks. They have losely connected their service with the Erie Barge Canal, which runs from Buffalo on Lake Erie across the State of New York, Joining the Hudson River at Troy, a distance of 387 miles.

Callan Brothers have linked their right large warehouses, with a storage apacity of 90,000 square feet, and their motor truck gentless.

motor truck rervice with the terminals of the canal in New York city and important up-State transshipment points along the banal. The Harlem River Ship Canal is eight miles long. Callan Brothers unload frought direct from the canal barges at their warehouses slongside barges at their warehouses alongside their yard for shipment by their large fleet of motor trucks and delivery direct to consignees or to Callan Brothers' warehouses to be held for future delivery in New England, New Jersey, Demware, Pennsylvania or other seaboard States to transatlantic plers in New York

are the outcome of the inability of the railroads to handle the great quantities of freight which have congested railway traffic in all parts of the country. This condition is responsible for the discovery of the real value of the motor truck as a transportation medium. Motor trains on "short hauls" to a considerable extent, thereby releasing freight cars for the more essential shipments on longer hauls.

Within a range of 50 to 100 miles the motor truck is to-day easily a competitor on better than even terms with the railroads. All that is needed to widen longer hauls.

Shipping freight by motor trucks means less handling of smooth, hard surfaced highways of all shipments on the limits of this zone is the building of smooth, hard surfaced highways of all shipments on the limits of this move may be appreciated when it is known that 90 per cent. of the automobiles in use to-day have the Stewart vacuum system the limits of this move may be appreciated when it is known that 90 per cent. of the automobiles in use to-day have the Stewart vacuum system the limits of this move may be appreciated when it is known that 90 per cent. of the automobiles in use to-day have the Stewart vacuum system the limits of this move may be appreciated when it is known that 90 per cent. of the automobiles in use to-day have the Stewart vacuum system the limits of this move may be appreciated when it is known that 90 per cent. of the automobiles in use to-day have the Stewart vacuum system the limits of this zone is the building of smooth, hard surfaced highways of all the stewart vacuum system and the limits of the stewart vacuum system and the limits of the surfaced highways of all the stewart vacuum system and the limits of this zone is the building of smooth, hard surfaced highways of all the stewart vacuum system and the surfaced highways of all th trucks were used in connecting the broken lines of railroad shipping and

from freight station or truck to cars third, unloading at destination from cars to trucks or freight station; fourth, un-

Distances considered practical for motor truck transportation are held by various authorities to average from 100 to 300 miles. In special instances trips of 400 miles have been made. An exceptional demonstration of long distance hauling is the fleet of motor trucks which the Goodyear Tire and Rubber Company operates between Akron, Ohio, and Boston for the shipment of fabrics and Boston for the shipment of fabrics.

In special instances trips of the nation may be moved the city and State. He was a director of the city and State and the city and the city and state and the city and 1,560 miles in from six to nine days, depending on the weather and road conditions. They are driven between terminals with no stops other than for meals and supplies. Each truck is manned with two drivers, one of whom drives while the other sleeps.

The establishing of long distance the first section of the drive, and will remain with the organization behind the battle lines in has been very prominent in legislative proach to its solution was made when motor truck savilar to the interests of motorists.

The establishing of long distance motor truck service during the emer-gency of the war is undoubtedly the sency of the war is undoubtedly the forerunner of a continuation of such service on an even larger scale in the era of peace. The service is demonstrating to manufacturers and merchants that motor truck transportation is the only way to escape delays caused by slow moving local railroad freight trains and the loss of time that had frequently been experienced even before the railroad freight congestion became so acute.

road freight congestion became so acute Department stores in New York city and Philadelphia are extensively patronizing long distance motor truck freight service. This method of transportation insures prompt receipt of goods.

The products carried by motor trucks have hardly any limitations. Recently several tons of finished leather, valued at \$40,000, were shipped by motor truck from Philadelphia to New York overnight. Railroad service at the same

truck from Philadelphia to New York overnight. Railroad service at the same time would have required from four to seven days. Machinery manufacturers and cotton and woollen mills in New England cannot well afford to await the arrival of slow incoming freights, so they have their raw materials delivered to them by motor trucks in express time. Heavy machinery is delivered direct from shops and foundries in Connecticut to factories in New York elity. Wholesale grocers deliver in Washington from warehouses in Haltimore. Tons of high explosives fhat railroads refuse to carry are delivered by motor trucks with but one handling after they leave the chemical works. And so on ad infilinitum.

Farmers, too, are turning to motor

Farmers, too, are turning to motor truck transportation. Thousands of them are now served by motor truck express lipes, without which they would hardly be able to ship milk or farm produce. This service has enabled them materially to increase their production, with a certainty of resching the receiving materially to increase their production, with a certainty of reaching the market. In Maryland there are twenty such lines carrying supplies into Baltimore and Washington. They have a daily capacity of 115,690 ton-miles and haul more than than 500 tons a day into these markets and take back an equal amount of merchandise to farmers and country merchants. The United States Food Administration states that one man with a truck can haul as much

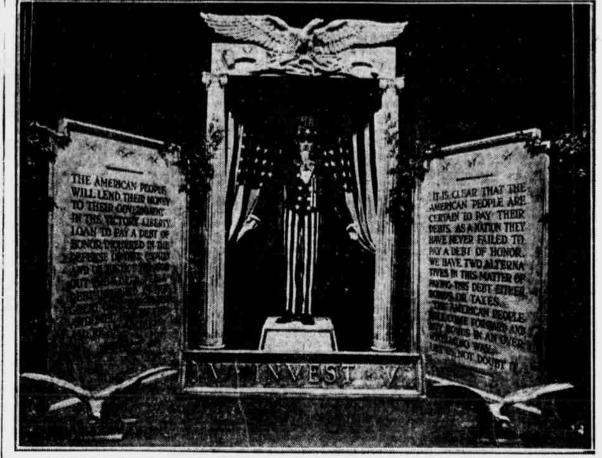
Food Administration states that one man with a truck can haul as much farm produce as three men with wagons and cover three times the distance.

All of this emphasizes in a general way the conditions that have obtained in railroad transportation and explains why industrial and commercial interests are turning more and more from what had been considered "short hauls" to the use of motor trucks for transportation. Business men first turned to motor truck service to meet an emergency; now they are turning to it to insure against interruptions and delays in carrying on their operations.

When counterbalanced by their capacity and more extended distance

When counterbalanced by their capacity and more extended distance of travel the upkeep of motor trucks has proved to be less expensive than the maintenance of horses. One of the big Mack trucks of the Callan fleet has been in the service for feur years, and

It's for Your Uncle Sam, Your Boys and Yourself.



Automobile Row is working hard for the Victory Loan. In addition to actual solicitation dealers are using most effective window displays. The impressive one shown here is that of the B. F. Goodrich Bubber Company at Broadway and 57th street.

New York to Bridgeport, Conn. New York to Hartford, Conn. New York to Springfield, Mass. New York to Worcester, Mass.

The foregoing gives a practical insight into the transportation methods of the immediate future. Motor truck transportation has come to stay. problem, now is to perfect and develop it. Engineers who for years have been engaged in the building of better roads are now including in their efforts the problem of better motor transportation. best, quickest and most economical man-

for the more essential shipments on longer hauls.

Shipping freight by motor trucks means less handling, less damage and safer delivery. It eliminates at least five handlings of goods as shipped by railroad: First, from factory or warehouse to freight station; second, loading from freight station or truck to cars; winter as well as summer. This handless the second of this fact, and a new Government department is to be born out of the stress of the great war.

Leaves Deniers' Association to Go into Business. winter as well as summer. This has the double strategical value of a strictly military measure and of relieving rail- general manager of the Automobile Deal-

THE Mercer has always been a

▲ fast, fine car—especially built for

that class of motor purchasers who

like to drive the Mercer themselves

whether they keep a chauffeur or not

mighty Four-Cylinder Power Plant,

is easy to handle and delivers the

You understand why a car like the

Mercer is so much in demand—and

why it is never possible to buy a

Mercer just anywhere or any time.

Whiting Motor Company

kind of drive you expect of it.

1802 Broadway, New York

Built for speed and safety, with its

t has never had its engine taken down the engineering division of the French BIG NASH DEALERS MEETINGS. for a general overhauling. It is still in commission carrying its rated capacity load every day. commission carrying its rated capacity tractors top heavy with men, munitions and supplies of all kinds were enabled to pound over those roads day and night, thus giving the Hun a blow that led to make the seven and one-half ton Mack his defeat. This lesson of Verdun has Hours awakened highway engineers to the pos-

Received at Two Gatherings.

Warren. Mr. Nash had many comply

The problem of transportation will be New solved by good roads engineers and they motor truck engineers working in cooperation to achieve the desired end.

STEWART-WARNER'S BIG MOVE. ters May 1.

The Stewart-Warner Speedometer Cor-poration branch will be moved on May about the unusually efficient manner in means to an end—efficient transporta-tion, the getting of things from where they are to where they are needed in the best, quickest and most warmand in the greatly increased business. Frank White. to increase Stewart-Warner service. The importance of this move may

loading from trucks to stores, factories or warehouses, and fifth, handling in case the goods are removed from the car to freight station and held until the consignee sends a motor truck to remove them.

Distinces considered results for the care of the station and held until the consignee sends a motor truck to remove them.

13:013:

MOTOR

352 Central Avenue, Newark

Manufactured by

Mercer Automobile Company

New Jersey

AUTOMOBILE ROW IN BIG LOAN DRIVE

Determined to Go "Over the Keesling Brothers Plan to Top" Again for the Government.

New York's Automobile Row is again forging ahead on high-speed for the Davis Motor Corporation of 1748 Broad-Fifth Victory Loan. During the week the members in charge of the Automotive and Accessories Trades Committee of the loan had a meeting at the Automobile Club of America and planned an Keesling brothers. Davis cars will be mobile Club of America and planned an given the representation and exploita-aggressive campaign to put the Row's tion that the car deserves. Indeed, then quota over the top. The motor trades-faith in the Davis make is very great men have exceeded their quota in every and they see no reason why its success in the West cannot be duplicated, if not doubted that they will now finish the qualities are once properly presented to dualities are once properly presented to job. For this drive the committee will not resort to any unusual store window performances which were characteristic of the last drive but will exert its onergies in calling the attention of every motor car and accessory tradesman to the importance of the loan and agking "We made a versel" and the committee will have a considered by this that the owner, because loss of time with the motor truck at 505-515 West Fifty-fifth the owner, because loss of money. "We therefore installed our inspection of Mr last the owner, because loss of money. We therefore installed our inspection of Mr last the owner, because loss of time with the motor truck at 505-515 West Fifty-fifth the owner, because loss of time with the motor truck at 505-516 West Fifty-fifth the owner, because loss of time with the owner, because loss of time with the owner, because loss of time with the motor truck at 505-516 West Fifty-fifth the owner, because loss of time with the motor truck at 505-516 West Fifty-fifth the owner, because loss of time with the owner, because loss of time with the owner, because loss of time with the owner, because loss of money.

"We therefore installed our inspection of Mr large the proving a boon to Indiana owners. A special inspector is always on the job of the owner, because loss of money.

"We therefore installed our inspection of Mr large the owner, because loss of money.

"We therefore installed our inspection of Mr large the owner, because loss of money.

"We therefore installed our inspection of the owner, because loss of money. the importance of the loan and apking his cooperation to put it over. Each dealer will see to it that his employees become a cog in the wheel which will make the drive a most successful one.

One of the features will be a camouflage tank driven by Corporal George S. Partridge, son of E. S. Partridge, the comfortable, but one that will meet the hardest usage and wear. In fact, it is local distributer of Owen Magnetic cars.

This tank will be driven up and down Broadway and will be exhibited in front of the stores of various dealers.

Charles M. Brown of the Magnetic cars.

Charles M. Brown of the stores of various dealers. Partridge, son of E. S. Partridge, the local distributer of Owen Magnetic cars. Charles M. Brown of the Winton Con

pany again is chairman of the Auto-motive and Accessory Trades Committee; Charles E. Miller, the accessory is vice-chairman and E. S. Partridge the director of meetings. members of the committee are William President Nash Enthusiastically Company; W. L. Bently, Society of Pro-fessional Automotive Engineers; H. R. Bliss of the Colt-Stratton Company; H. Eighty-nine dealers and salesmen of Nash passenger cars and trucks in this J. Deliear of the Maxwell Motor Com-territory were the guests of the Warrenwaskered in gives of auto truck transportation in times of peace as well as war.

The problem of transportation will be New York Athletic Club luncheon, where Gaskell, Swartz-Gaskell Corporation, R. Buffalo district listened to Mr. Nash at another luncheon given by Charles B. Company; W. C. Poertner, Poertner Mo-tor Car Company; A. G. Southworth of the Ruick Motor Company; W. D. Stewart of Willys-Overland, Inc.; E. S. Thompson, Automobile Club of America I from 223 West Fifty-eighth street to which Mr. Warren is carrying on the much larger quarters at 549-551 West wholesale interests of the company in Fifty-second street to keep pace with a this large territory.

Under A. Westmore of the Frening Mail: and Walter A. Woods, C. Van Cortlandt Vehicle Corporation.

> are glad to back it with a liberal policy.

> Come see this great

Broadway at 61st St.

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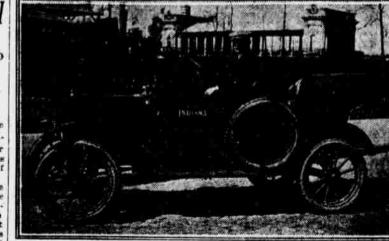
Back Sales With Strong Service Plan.

Lloyd M. and C. R. Keesling of the way are the new Davis distributers for Long Island, New York State as far as Albany, northern New Jersey and half

of Connecticut.

According to the plans outlined by the

An excellent method of preventing Alien Alien Auto Specialty Company; The conting should be applied to the T. Barbour of the National City tools with a soft rag. He Forestalls Truck Troubles.



Company, distributers of the Indiana

operation in this territory.

Commenting on this interesting phase itself. We believe in combining good service with a good truck; in fact, we built up our business on that basis.

"Long ago we found that it was not sufficient to have a completely equipped service station and an adequate supply of parts. We had to go further in our cooperation with the owner. Our experience taught us that drivers in a great many cases were either careless or inexperienced, or both, in caring for their mechanism, and the first we would hear of any trouble would be a serious breakage. This means a long period for An excellent method of preventing tools getting rusty is to give them a coating of vaseline in which a little gum camphor has been mixed, after which the mixture is melted over a slow fire.

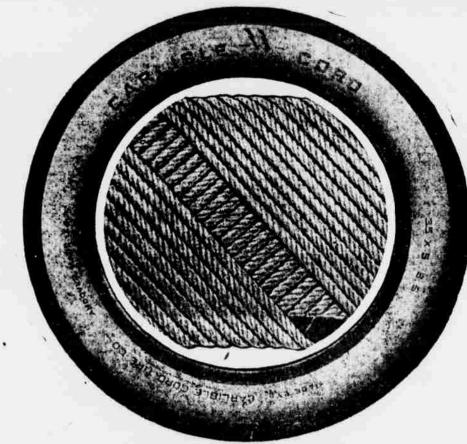
The experience taught us that drivers in a great many cases were either careless or inexperienced, or both, in caring for their mechanism, and the first we would be a serious

et, maintains in addition to its regu-service an inspection department Lyons and it is the duty of the inspection department to watch over Indiana cards and makes a detail report on each the interests of all the Indiana trucks in truck seen, which the customer signs,

of service, Paul Campbell, president of the company, says: "We do not consider our job complete when we have sold a man an Indiana truck. Service on trucks is as important as the truck on having it repaired before disastrous itself. We believe in combining good results occur. It means increased effi-

LURIE GETS 500 METZ CARS.

New York Athletic Club luncheon, where they were addressed by Charles W., Nash, president of the Nash Motors Company, It was an enthusiastic gathering, and Mr. Nash made an inspiring speech. On Friday the Nash family in the Europe Company; W. B. Leaby of the Chevrolet Motor Company; W. B. Leaby of the Chevrolet Motor Company; W. B. Leaby of the Chevrolet Motor Company; W. E. McGuirk of the American Taximeter



Uncanny Machines Build the Tire Carcass of Uncut Strands of Sturdy Rope breaking only at 235 Pounds

▼MAGINE a tire built of continuous strands of sturdy rope, each strand insulated and separated from its neighbors, each strand under perfectly uniform tension, each strand tested for high tensile strength, each strand individually inspected to detect the slightest imperfection.

Imagine the strength of such a tire. Imagine its extreme resilience. The breaking resistance of the Carlisle Tire is more than 2000 pounds per square inch. Blowouts and all the usual run of 'tire troubles are almost wiped off the boards.

Carlisle Tires are cool at 60 miles an hour, for their construction eliminates that old bogey, internal friction.

No ordinary tire machines could build a Carlisle Tire. Special machines have been invented. They are faster than the old tire building machines and far, far more efficient. They eliminate chance and reduce mistakes to the vanishing point.

Even the curing of Carlisle Tires is done differently. The finished tire is one homogeneous mass of rope and rubber. Tread separation and carcass friction are things of the past.

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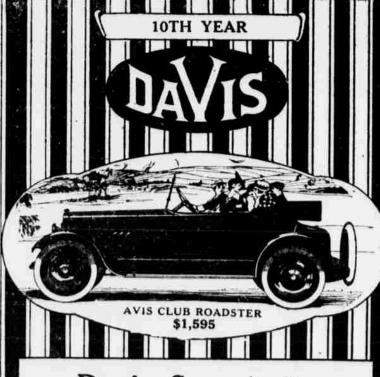
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